



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@po.state.ct.us

www.ct.gov/csc

April 21, 2005

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-008-020-025-108-130-131-050315** -Cellco Partnership d/b/a Verizon Wireless notice of intent to modify existing telecommunications facilities located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany; and 338 Oxford Road, Oxford, Connecticut.

Dear Attorney Baldwin:


At a public meeting held on April 19, 2005, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated March 15, 2005, including the placement of all necessary equipment and shelters within the tower compounds. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to existing facility sites that would not increase tower heights, extend the boundaries of the tower sites, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power densities measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to any of these facilities will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,


Pamela B. Katz, P.E.
Chairman

PBK/laf

c: See Attached List

Recipient List:

The Honorable Theodore C. Scheidel, Jr., First Selectman, Town of Burlington
Robert J. Coates, Planning and Zoning Chairman, Town of Burlington
Burlington Fire Department
The Honorable Craig A. Stahl, First Selectman, Town of Bethany
Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany
The Honorable Thomas Stretton, Council Chairman, Town of Cheshire
Richard A. Pfurr, Town Planner, Town of Cheshire
The Honorable Mark A. R. Cooper, First Selectman, Town of Southbury
Mark D. Cody, Zoning Enforcement Officer, Town of Southbury
The Honorable Victoria Triano, Town Council Chairman, Town of Southington
Mary Hughes, Town Planner, Town of Southington
The Honorable August A. Palmer, First Selectman, Town of Oxford
Vincent Vizzo, Planning and Zoning Chairman, Town of Oxford
Thomas J. Regan, Brown Rudnick Berlack Israels, LLP
Stephen J. Humes, Esq., McCarter & English LLP
Christopher B. Fisher, Esq., Cuddy & Feder, LLP
Thomas F. Flynn III, Nextel Communications
Melanie Girton, Property Management Dept., Spectrasite Communications
Jeff Baker, American Tower Corporation

RECEIVED
MAR 28 2005
CONNECTICUT
SITING COUNCIL

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

March 25, 2005

Robert H. Brinton
Land-Use Administrator
Town of Bethany
Town Hall
40 Peck Road
Bethany, CT 06524-3338

Re: **Verizon Wireless Modification to Existing Telecommunications Tower,
93 Old Amity Road, Bethany, Connecticut**

Dear Mr. Brinton:

I am in receipt of your March 22, 2005 letter regarding the above-referenced telecommunications facility; a facility under the exclusive jurisdiction of the Connecticut Siting Council. The information provided in the Siting Council filing is all that is regularly required by the Siting Council to acknowledge the proposed minor modifications.

That said, and as you stated in your letter, we will be filing for building permits for these modifications and will, at that time, provide you with the additional information you are looking for.

If I can be of any further assistance please do not hesitate to contact me.

Sincerely,


Kenneth C. Baldwin



Law Offices

BOSTON

HARTFORD

NEW LONDON

STAMFORD

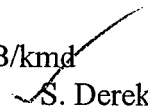
GREENWICH

NEW YORK

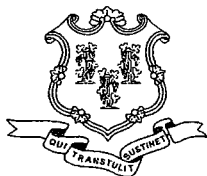
SARASOTA

www.rc.com

KCB/kmd

cc:  S. Derek Phelps
Sandy M. Carter

HART1-1244318-1



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March 17, 2005

The Honorable Thomas Stretton
Council Chairman
Town of Cheshire
84 South Main Street
Cheshire, CT 06410

RE: **EM-VER-008-020-025-108-130-131-050316** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Mr. Stretton:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Richard A. Pfurr, Town Planner, Town of Cheshire



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March 17, 2005

The Honorable Victoria Triano
Chairman Town Council
Town of Southington
75 Main Street
Southington, CT 06489

RE: **EM-VER-008-020-025-108-130-131-050316** – Celco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Ms. Triano:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

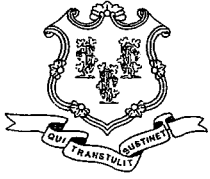
Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Mary Hughes, Town Planner, Town of Southington



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March 17, 2005

The Honorable August A. Palmer
First Selectman
Town of Oxford
486 Oxford Road
Oxford, CT 06478-1298

RE: **EM-VER-008-020-025-108-130-131-050316** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Mr. Palmer:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Vincent Vizzo, Planning & Zoning Chairman, Town of Oxford



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March 17, 2005

The Honorable Craig A. Stahl
First Selectman
Town of Bethany
40 Peck Road
Bethany, CT 06524-3338

RE: **EM-VER-008-020-025-108-130-131-050316** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Mr. Stahl:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany



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March 17, 2005

The Honorable Theodore C. Scheidel, Jr.
First Selectman
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

RE: **EM-VER-008-020-025-108-130-131-050316** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Mr. Scheidel:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

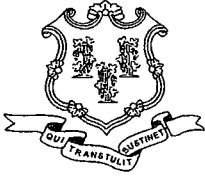
Very truly yours

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Robert J. Coates, Planning and Zoning Chairman, Town of Burlington



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March 17, 2005

The Honorable Mark A. R. Cooper
First Selectman
Town of Southbury
501 Main Street South
Southbury, CT 06488-2295

RE: **EM-VER-008-020-025-108-130-131-050316** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 719 George Washington Turnpike, Burlington; Meriden-Waterbury Road, Southington; 751 Higgins Road, Cheshire; 133 Horse Fence Road, Southbury; 93 Old Amity Road, Bethany and 338 Oxford Road, Oxford, Connecticut.

Dear Mr. Cooper:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

Very truly yours,

A handwritten signature in black ink, appearing to read "S. Derek Phelps".

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Mark D. Cody, Zoning Enforcement Officer, Town of Southbury

EM-VER-008-020-025-108-130-131-050315

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

March 15, 2005

Via Hand Delivery

RECEIVED
MAR 15 2005

CONNECTICUT
SITING COUNCIL

S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
719 George Washington Turnpike, Burlington, CT
Meriden-Waterbury Road, Southington (Milldale), CT
751 Higgins Road, Cheshire, CT
133 Horse Fence Road, Southbury, CT
93 Old Amity Road, Bethany, CT
338 Oxford Road, Oxford, CT

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains a wireless telecommunications facility at each of the sites referenced above. As described below, Cellco now intends to modify each of these facilities.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the chief elected or appointed official in each affected municipality.

Burlington Facility – 719 George Washington Turnpike

Cellco’s existing facility consists of four (4) cellular antennas on a tower owned by the Burlington Fire Department. Cellco now intends to modify its facility by replacing two (2) of its cellular antennas with two (2) PCS antennas at the same level on the tower. Attached behind Tab 1 are specifications for the existing cellular antennas and the proposed PCS antennas for the Burlington facility and a new general power density table.



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- NEW LONDON
- STAMFORD
- GREENWICH
- NEW YORK
- SARASOTA

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HART1-1233295-1

S. Derek Phelps

March 15, 2005

Page 2

Southington (Milldale) Facility – Meriden-Waterbury Road

Cellco's existing facility consists of twelve (12) cellular antennas on a tower owned by SpintSites USA. Cellco now intends to modify its facility by replacing six (6) of its cellular antennas with six (6) PCS antennas at the same level on the tower. Attached behind Tab 2 are specifications for the existing cellular antennas and the proposed PCS antennas for the Milldale facility and a new general power density table.

Cheshire Facility – 751 Higgins Road

Cellco's existing facility consists of twelve (12) cellular antennas on a tower owned by AT&T. Cellco now intends to modify its facility by replacing six (6) of its cellular antennas with six (6) PCS antennas at the same level on the tower. Attached behind Tab 3 are specifications for the existing cellular antennas and the proposed PCS antennas for the Cheshire facility and a new general power density table.

Southbury Facility – 133 Horse Fence Hill Road

Cellco's existing facility consists of six (6) cellular antennas on a tower owned by Spectrasite. Cellco was originally approved for twelve (12) antennas at this site, but to date has only installed six. Cellco now intends to modify its facility by adding three (3) PCS antennas at the same level on the tower, for a total of nine (9) antennas. Attached behind Tab 4 are specifications for the existing cellular antennas and the proposed PCS antennas for the Southbury facility and a new general power density table.

Bethany Facility – 93 Old Amity Road

Cellco's existing facility consists of twelve (12) cellular antennas on a tower owned by American Tower. Cellco now intends to modify its facility by replacing all twelve (12) existing cellular antennas with six (6) new cellular antennas and six (6) PCS antennas at the same level on the tower. Attached behind Tab 5 are specifications for the existing cellular antennas and the proposed cellular and PCS antennas for the Bethany facility and a new general power density table.

Oxford Facility – 338 Oxford Road

Cellco's existing facility consists of twelve (12) cellular antennas on a tower owned by the SprintSites USA. Cellco now intends to modify its facility by replacing



ROBINSON & COLE_{LLP}

S. Derek Phelps
March 15, 2005
Page 3

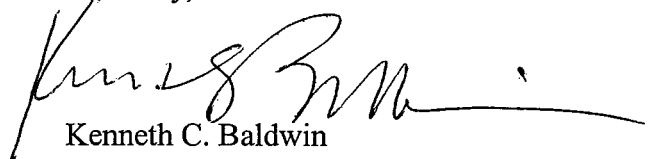
six (6) of its cellular antennas with six (6) PCS antennas at the same level on the tower. Attached behind Tab 6 are specifications for the existing cellular antennas and the proposed PCS antennas for the Oxford facility and a new general power density table.

The planned modifications to each of the facilities described above fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in the increase in the overall height of any of the existing structures. Cellco's replacement antennas will be mounted at the same level on each tower.
2. The proposed modifications will not affect ground-mounted equipment and therefore, will not require the extension of the site boundaries.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.
4. The proposed modifications will not result in radio frequency (RF) power density levels at the facility that exceed the Federal Communications Commission (FCC) adopted safety standard.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facilities constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

cc: Theodore Scheidel, Town of Burlington First Selectman
John Weichsel, Town of Southington Town Manager
Michael A. Milone, Town of Cheshire Town Manager
Mark Cooper, Town of Southbury First Selectman
Derrylyn Gorski, Town of Bethany First Selectman
August A. Palmer III, Town of Oxford First Selectman
Sandy M. Carter

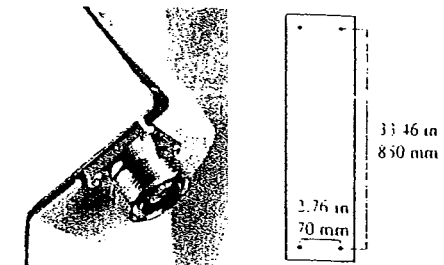
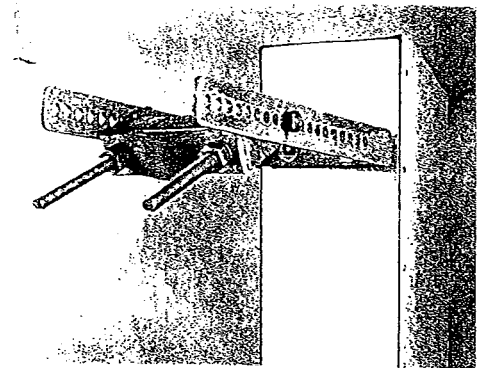
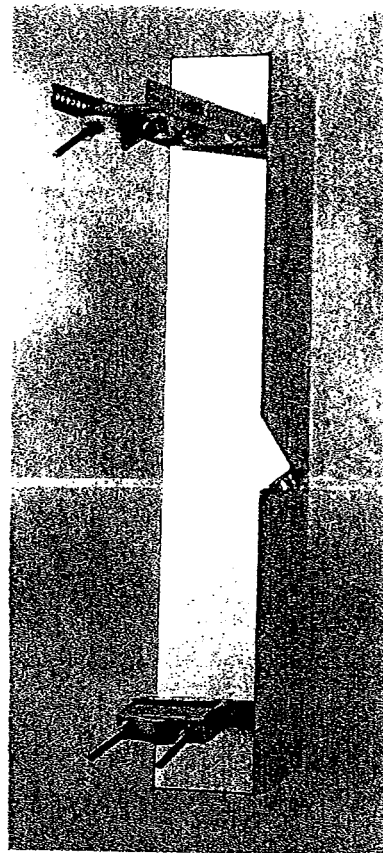


ALP-E 9011-Din

Enhanced Log-Periodic Antenna

Features:

- Small Size
- Aesthetically Pleasing
- Suitable For TDMA/CDMA
- High Return Loss
- Low Intermodulation
- High FTB
- Broadbanded
- Side-lobe Suppression
- Sturdy Design
- Down-Tilt Brackets Incl.



The distance between the center of the bolts (on the back of the antenna) are shown in the drawing above.

Bolt diameter is: 3/8-16
[comes with lock nut].

Frequency Range: **800-900 MHz**
 Impedance: **50 ohm**
 Connector Type: **7/16 Din**
 Return Loss: **20 dB**
 Polarization: **Vertical**
 Gain: **> 11 dBd**
 Front To Back Ratio: **> 30 dB**
 Side-Lobe Suppression: **18 dB**
 Intermodulation (2x25W): **IM3 > 146 dB**
 IM5 > 153 dB
 IM7/9 > 163 dB
 Power Rating: **500 W**
 H-Plane (-3 dB point): **85 - 92°**
 V-Plane (-3 dB point): **16 - 18°**
 Lightning Protection: **DC Grounded**

Overall Height: **43 in** [1092 mm]
 Width: **6.5 in** [165 mm]
 Depth: **8 in** [203 mm]
 Weight Including Tilt-Brackets: **20 lbs** [9.1 Kg]
 Rated Wind Velocity: **113 mph** [180 Km/h]
 Wind Area (CxA/Side): **2.3 sq. ft.** [0.22 sq.m]
 Lateral Thrust At Rated Wind Worst Case: **112 lbs** [500 N]

Radiating Elements: **Aluminum**
 Extrusion: **Aluminum**
 Radome: **Grey PVC**
 Tilt-Bracket: **Hot Dip Galvanized Steel**
 Antenna Bolts: **Stainless Steel**

The ALP-E 9011-Din is made in U.S.A.

DECIBEL
Base Station Antennas

932DG90T2E-M

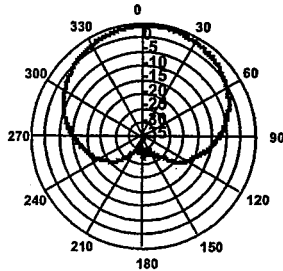
16.7 dBi, ± 45° Diversity Panel Antenna
1850-1990 MHz

1850-1990 MHz

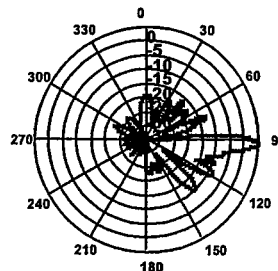
**Diversity Master™
GEN3XPOL™**

- Features air dielectric feed system for maximum array efficiency and lowest loss
- No fasteners, rivets, soldering or welding in critical element-to-transformer circuit
- Strong first upper side lobe suppression
- Excellent gain per unit length of antenna

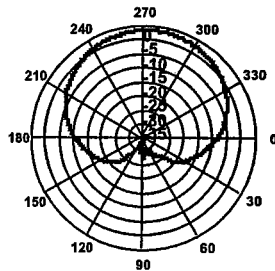
906



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	Weight:	9.5 lbs (4.3 kg)
Polarization:	+45°/-45°	Dimensions (LxWxD):	51.5 X 7 X 3.5 in (1308 X 178 X 89 mm)
Gain (dBd/dBi):	14.6/16.7	Max. Wind Area:	0.86 ft² (0.08 m²)
Azimuth BW:	90°	Max. Wind Load (@ 100mph):	50 lbf (222 N)
Elevation BW:	7°	Max. Wind Speed:	125 mph (201 km/h)
Beam Tilt:	2°	Radiator Material:	Aluminum
USLS* (dB):	>18	Reflector Material:	Aluminum
Front-to-Back Ratio* (dB):	30	Radome Material:	Polycarbonate, UV Resistant
Isolation (dB):	>30	Mounting Hardware Material:	Galvanized Steel
VSWR:	<1.33:1	Connector Type:	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150 dBc	Color:	Light Gray
Impedance:	50 Ohms	Standard Mounting Hardware:	DB390 Pipe Mount Kit, Included
Max Input Power:	250 Watts	Downtilt Mounting Hardware:	DB5098, optional
Lightning Protection:	DC Ground	Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°.4°, Variable 1-8°		



Andrew Corporation
8635 Stemmons Freeway
Dallas, Texas U.S.A 75247-3701
Tel: 214.631.0310

Fax: 214.631.4706
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

Date: 4/2/2004
* - Indicates Typical Values

dblech@andrew.com

General Power Density

Site Name: Burlington , CT
 Tower Height: 119 ft rad center

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
Verizon	869	9	200	1800	119	0.0457	0.5793	7.89%
Verizon	1900	3	200	600	119	0.0152	1	1.52%
Total Percentage of Maximum Permissible Exposure								9.41%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
 mW/cm² = milliwatts per square centimeter
 ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.





DB844H80E-XY

12.7 dBd
Directional Log Periodic Antenna

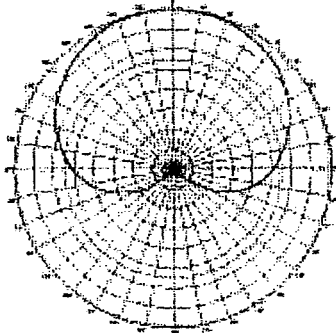
806-960 MHz

dB Director®

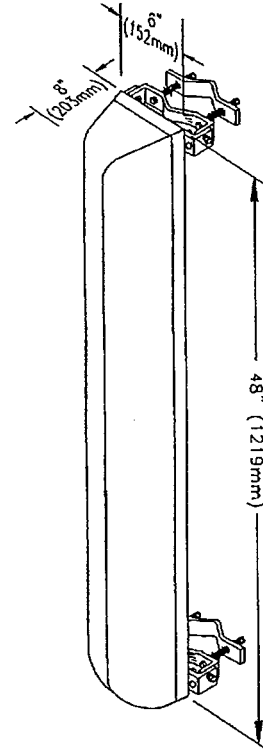
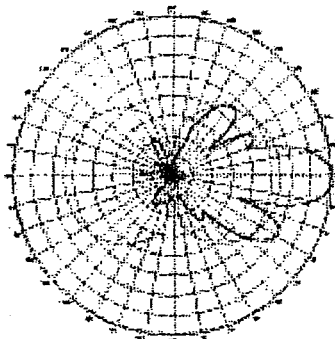
- 806-960 MHz
- 12.7 dBd (14.8 dBi) Gain
- Vertical Polarization
- 80° Azimuth BW
- 15° Elevation BW
- 7/16 DIN
- Cellular and ESMR

80°

Azimuth
(Horizontal)



Elevation
(Vertical)



Electrical

VSWR: < 1.5:1
 Front-to-Back Ratio: > 40 dB, typical
 Max. Input Power: 500 Watts
 Impedance: 50 Ohms
 Lightning Protection: All metal parts are grounded.

Mounting Options

Standard: DB380 pipe mount kit (max. 3.5" OD), included.
 Downtilt: DB5083 downtilt brackets, optional.

Mechanical

Weight: 10 lbs (4.5 kg)
 Wind Area: 2 ft² (0.19 m²)
 Wind Load: 80 lbf (356N) 35.9 kp (at 100 mph)
 Max. Wind Speed: 125 mph (200 km/h)
 Radiators: Brass
 Back Panel: Pass. Aluminum
 Radome: ABS
 Mounting Hardware: Galvanized Steel
 Color: Normal Gray

22 w/ mount brackets

Dimensions 48 x 6 x 8.5

8635 Stemmons Freeway • Dallas, Texas U.S.A. 75247-3701
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099089-000 07/01-N



ISO9001 Compliant

DECIBEL®
Base Station Antennas

948F85T2E-M

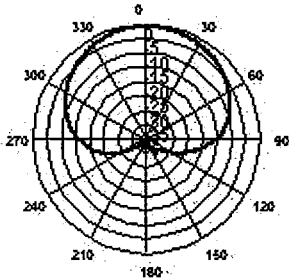
16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

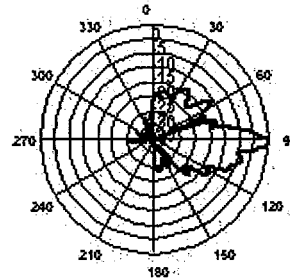
MaxFill™
dB Director®

- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

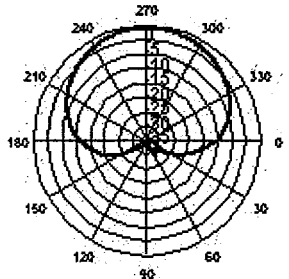
850



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	Weight:	8.5 lbs (3.9 kg)
Polarization:	Vertical	Dimensions (LxWxD):	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Gain (dBd/dBi):	14/16.1	Max. Wind Area:	1.18 ft ² (0.11 m ²)
Azimuth BW:	85°	Max. Wind Load (@ 100mph):	65 lbf (289 N)
Elevation BW:	8°	Max. Wind Speed:	125 mph (201 km/h)
Beam Tilt:	2°	Radiator Material:	Low Loss Circuit Board
USLS* (dB):	>18	Reflector Material:	Aluminum
Null Fill* (dB):	15	Radome Material:	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	Mounting Hardware Material:	Galvanized Steel
VSWR:	<1.33:1	Connector Type:	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150 dBc	Color:	Light Gray
Impedance:	50 Ohms	Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Max Input Power:	250 Watts	Downtilt Mounting Hardware:	DB5098, optional
Lightning Protection:	DC Ground	Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°, 4°, 6°		



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Date: 4/29/2004
* - Indicates Typical Values

dbtech@andrew.com

General Power Density

Site Name: Milldale, CT
 Tower Height: 138 ft rad center

Operator	Operating Frequency (MHz)	Number of Frans	ERP Per Frans (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
Verizon	869	9	200	1800	138	0.0340	0.5793	5.87%
Verizon	1900	3	200	600	138	0.0113	1	1.13%
Total Percentage of Maximum Permissible Exposure								7.00%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.

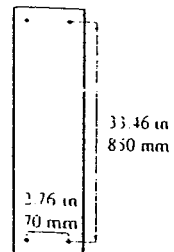
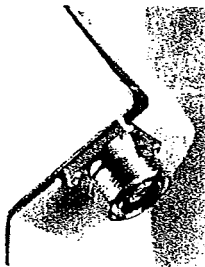
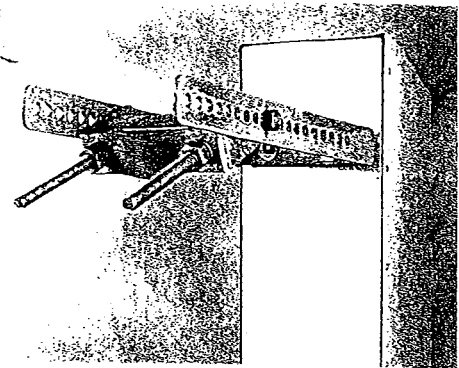
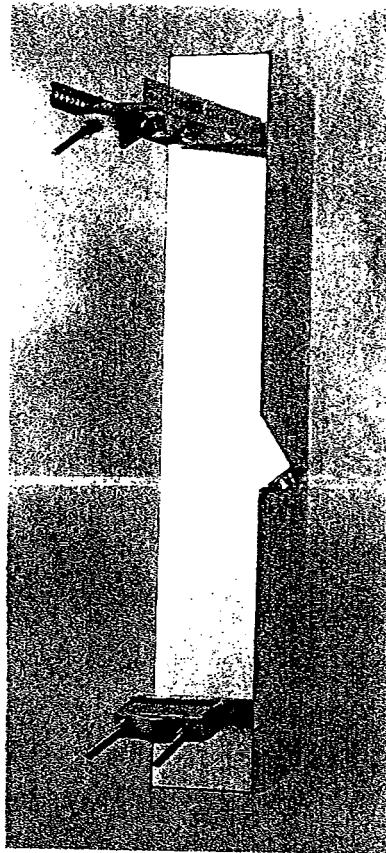


ALP-E 9011-Din

Enhanced Log-Periodic Antenna

Features:

- Small Size
- Aesthetically Pleasing
- Suitable For TDMA/CDMA
- High Return Loss
- Low Intermodulation
- High FTB
- Broadbanded
- Side-lobe Suppression
- Sturdy Design
- Down-Tilt Brackets Incl.



The distance between the center of the bolts (on the back of the antenna) are shown in the drawing above.

Bolt diameter is: 3/8-16
[comes with lock nut].

Frequency Range:	800-900 MHz
Impedance:	50 ohm
Connector Type:	7/16 Din
Return Loss:	20 dB
Polarization:	Vertical
Gain:	> 11 dBd
Front To Back Ratio:	> 30 dB
Side-Lobe Suppression:	18 dB
Intermodulation (2x25W):	IM3 > 146 dB IM5 > 153 dB IM7/9 > 163 dB
Power Rating:	500 W
H-Plane (-3 dB point):	85 - 92°
V-Plane (-3 dB point):	16 - 18°
Lightning Protection:	DC Grounded

Overall Height:	43 in	[1092 mm]
Width:	6.5 in	[165 mm]
Depth:	8 in	[203 mm]
Weight Including Tilt-Brackets:	20 lbs	[9.1 Kg]
Rated Wind Velocity:	113 mph	[180 Km/h]
Wind Area (CxA/Side):	2.3 sq. ft.	[0.22 sq.m]
Lateral Thrust At Rated Wind Worst Case:	112 lbs	[500 N]

Radiating Elements:	Aluminum
Extrusion:	Aluminum
Radome:	Grey PVC
Tilt-Bracket:	Hot Dip Galvanized Steel
Antenna Bolts:	Stainless Steel

The ALP-E 9011-Din is made in U.S.A.

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948F85T2E-M

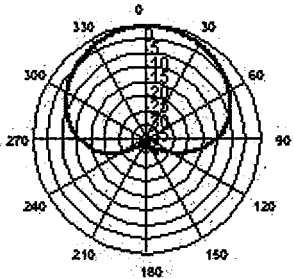
16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

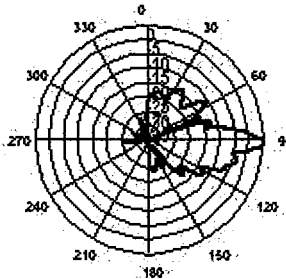
MaxFill™
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- Excellent upper side-lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

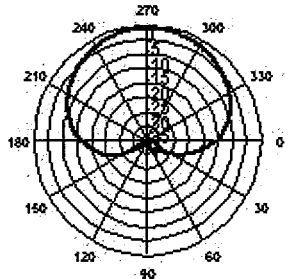
850



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	Weight:	8.5 lbs (3.9 kg)
Polarization:	Vertical	Dimensions (LxWxD):	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Gain (dBd/dBi):	14/16.1	Max. Wind Area:	1.18 ft ² (0.11 m ²)
Azimuth BW:	85°	Max. Wind Load (@ 100mph):	65 lbf (289 N)
Elevation BW:	8°	Max. Wind Speed:	125 mph (201 km/h)
Beam Tilt:	2°	Radiator Material:	Low Loss Circuit Board
USLS* (dB):	>18	Reflector Material:	Aluminum
Null Fill* (dB):	15	Radome Material:	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	Mounting Hardware Material:	Galvanized Steel
VSWR:	<1.33:1	Connector Type:	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150 dBc	Color:	Light Gray
Impedance:	50 Ohms	Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Max Input Power:	250 Watts	Downtilt Mounting Hardware:	DB5098, optional
Lightning Protection:	DC Ground	Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°, 4°, 6°		



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Date: 4/29/2004
* - Indicates Typical Values

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General Power Density

Site Name: Cheshire, CT
 Tower Height: 252 FT

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
Verizon	880	9	200	1800	252	0.0102	0.586	1.74%
Verizon	1900	3	200	600	252	0.0034	1	0.34%
Total Percentage of Maximum Permissible Exposure								2.08%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
 mW/cm² = milliwatts per square centimeter
 ERP = Effective Radiated Power



ALP 9212-N

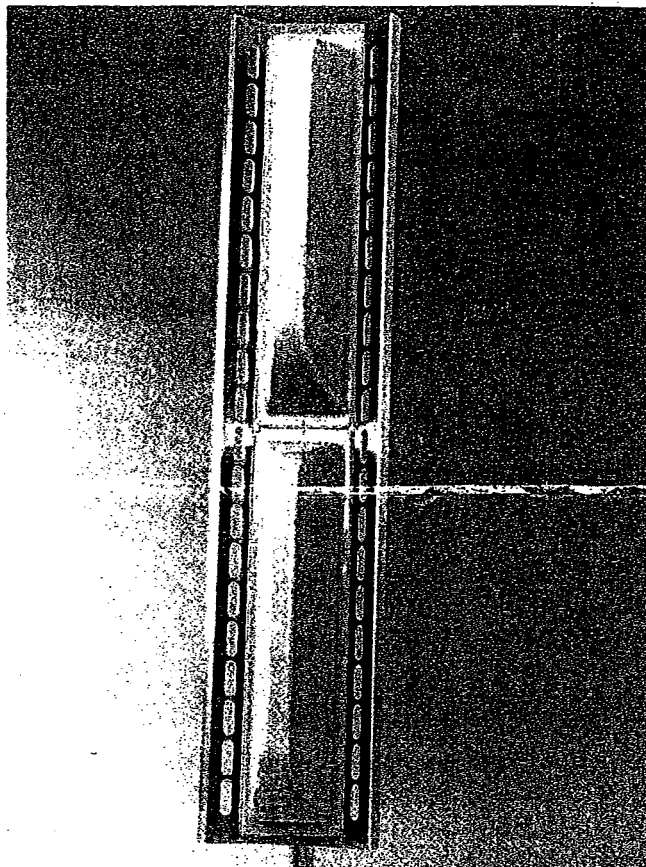
Log-Periodic Reflector Antenna

92 Degrees 12 dBd

Features:

- Broadbanded. (800-900 MHz)
- Low backlobe radiation. Front-to-back ratio better than 28 dB
- Low Intermodulation Products.
- Low Wind-load.
- Low weight.
- Small size.
- Rugged design.

Please see the following pages including radiation patterns/tables for ALP 9212-N.



Electrical Specifications:

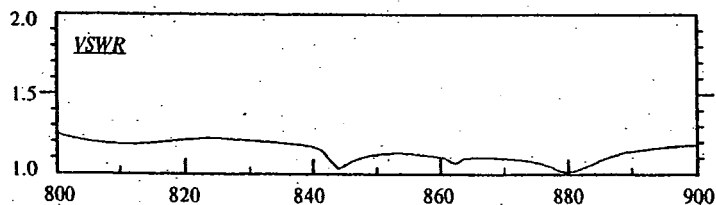
Frequency range:	806-896 MHz
Impedance:	50 ohm
Connector:	N-female or 7/8" EIA
VSWR:	Typ. 1.3:1 max 1.5:1
Polarization:	Vertical
Gain:	12 dBd
Front to back ratio:	>28 dB
Side-lobe suppression:	>18 dB
Intermodulation: (2x25W):	IM3 >146 dB IM5 >153 dB IM7 & IM9 >163 dB
Power Rating:	500 W
H-Plane:	-3 dB 95°
E-Plane:	-3 dB 15°
Lightning Protection:	DC Grounded

Mechanical Specifications:

Overall Height:	52 in	(1320 mm)
Width:	11.4 in	(290 mm)
Depth:	11.4 in	(290 mm)
Weight including brackets:	26.7 lbs	(12 Kg)
Rated wind velocity:	113 mph	(180 Km/h)
Wind Area (CxA/Front):	3.9 sq.ft	(0.36 sq.m)
Lateral thrust at rated wind		
Worst case:	570 N	

Materials:

Radiating elements:	Aluminum
Element housing:	Grey PVC
Back-plate:	Aluminum
Mounting hardware	
clamps:	Hot dip galvanized steel
bolts:	Stainless steel



Manufactured by: Allgon System AB

DECIBEL
Base Station Antennas

932DG90T2E-M

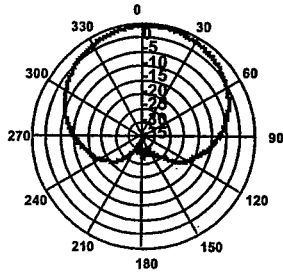
16.7 dBi, ± 45° Diversity Panel Antenna
1850-1990 MHz

1850-1990 MHz

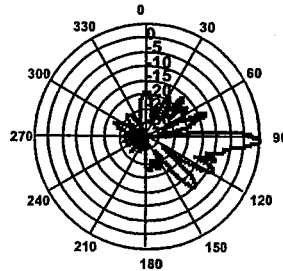
Diversity Master™
GEN3XPOL™

- Features air dielectric feed system for maximum array efficiency and lowest loss
- No fasteners, rivets, soldering or welding in critical element-to-transformer circuit
- Strong first upper side lobe suppression
- Excellent gain per unit length of antenna

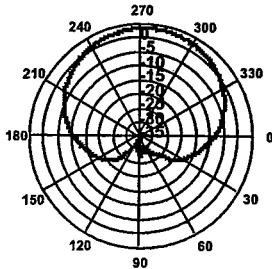
90°



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL

Frequency (MHz):	1850-1990
Polarization:	+45°/-45°
Gain (dBd/dBi):	14.6/16.7
Azimuth BW:	90°
Elevation BW:	7°
Beam Tilt:	2°
USLS* (dB):	>18
Front-to-Back Ratio* (dB):	30
Isolation (dB):	>30
VSWR:	<1.33:1
IM Suppression - Two 20 Watt Carriers:	-150 dBc
Impedance:	50 Ohms
Max Input Power:	250 Watts
Lightning Protection:	DC Ground
Opt Electrical Tilt:	0°, 4°, Variable 1-8°

MECHANICAL

Weight:	9.5 lbs (4.3 kg)
Dimensions (LxWxD):	51.5 X 7 X 3.5 in (1308 X 178 X 89 mm)
Max. Wind Area:	0.86 ft² (0.08 m²)
Max. Wind Load (@ 100mph):	50 lbf (222 N)
Max. Wind Speed:	125 mph (201 km/h)
Radiator Material:	Aluminum
Reflector Material:	Aluminum
Radome Material:	Polycarbonate, UV Resistant
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7-16 DIN - Female (Bottom)
Color:	Light Gray
Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Downtilt Mounting Hardware:	DB5098, optional
Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount



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Date: 4/2/2004
* - Indicates Typical Values

dbtech@andrew.com

General Power Density

Site Name: Southbury W, CT
 Tower Height: 111 FT

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
Verizon	880	9	200	1800	111	0.0525	0.586	8.97%
Verizon	1900	3	200	600	111	0.0175	1	1.75%
Total Percentage of Maximum Permissible Exposure								10.72%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power



ALP 9212-N

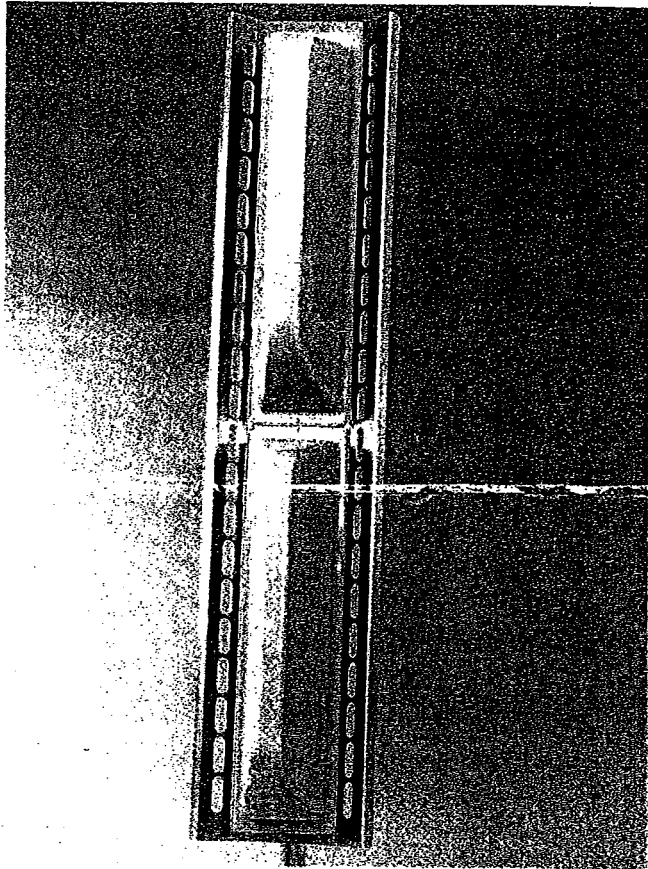
Log-Periodic Reflector Antenna

92 Degrees 12 dBd

Features:

- Broadbanded. (800-900 MHz)
- Low backlobe radiation. Front-to-back ratio better than 28 dB
- Low Intermodulation Products.
- Low Wind-load.
- Low weight.
- Small size.
- Rugged design.

Please see the following pages including radiation patterns/tables for ALP 9212-N.



Electrical Specifications:

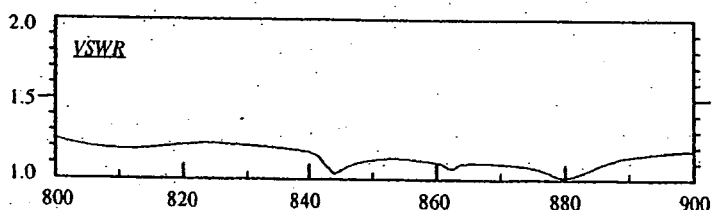
Frequency range:	806-896 MHz
Impedance:	50 ohm
Connector:	N-female or 7/8" EIA
VSWR:	Typ. 1.3:1 max 1.5:1
Polarization:	Vertical
Gain:	12 dBd
Front to back ratio:	>28 dB
Side-lobe suppression:	>18 dB
Intermodulation: (2x25W):	IM3 >146 dB IM5 >153 dB IM7 & IM9 >163 dB
Power Rating:	500 W
H-Plane:	-3 dB 95°
E-Plane:	-3 dB 15°
Lightning Protection:	DC Grounded

Mechanical Specifications:

Overall Height:	52 in	(1320 mm)
Width:	11.4 in	(290 mm)
Depth:	11.4 in	(290 mm)
Weight including brackets:	26.7 lbs	(12 Kg)
Rated wind velocity:	113 mph	(180 Km/h)
Wind Area (CxA/Front):	3.9 sq.ft	(0.36 sq.m)
Lateral thrust at rated wind		
Worst case:	570 N	

Materials:

Radiating elements:	Aluminum
Element housing:	Grey PVC
Back-plate:	Aluminum
Mounting hardware	
clamps:	Hot dip galvanized steel
bolts:	Stainless steel



Manufactured by: Allgon System AB

DECIBEL®
Base Station Antennas

DB844H90E-XY

Directed Dipole Antenna

806 - 896 MHz
870 - 960 MHz

- Excellent azimuth roll-off - 15-20% reduction in cell to cell overlap
- Superior front to back ratio
- Low profile, low wind load for easy zoning
- Outstanding field record, with thousands of units deployed world wide

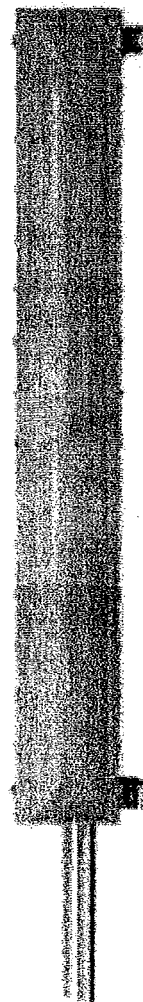
90°

ELECTRICAL

Frequency (MHz) :	806 - 896	870 - 960
Polarization :	Vertical	Vertical
Gain (dBd/dBi) :	12/14.1	12.4/14.5
Azimuth BW (Deg.):	90	90
Elevation BW (Deg.):	15	15
Beam Tilt (Deg.):	0	0
USLS* (dB) :	>15	>15
Front-To-Back Ratio* (dB) :	40	40
VSWR :	<1.35:1	<1.35:1
Max. Input Power (Watts) :	500	500
Impedance (Ohms) :	50	
Lightning Protection :	DC Ground	
Opt. Electrical Tilt :	6	

MECHANICAL

Weight :	6.3 kg (14 lb)
Dimensions (LxWxD) :	1,219 x 165 x 203 mm (48 x 6.5 x 8 in)
Max. Wind Area :	0.10 m ² (1.1 ft ²)
Max. Wind Load (@ 100 mph) :	262.4 N (59 lbf)
Max. Wind Speed :	241 km/h (150 mph)
Hardware Material :	Galvanized Steel
Connector Type :	7-16 DIN - Female (1, Back)
Color :	Light Gray
Alt. Connectors :	N - Type Female
Standard Mounting Hardware :	DB380
Standard Downtilt Mounting Hardware :	DB5083



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2601 Telecom Parkway
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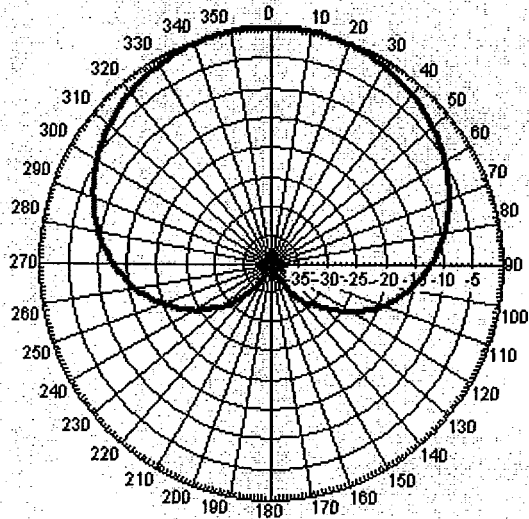
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1/11/2005
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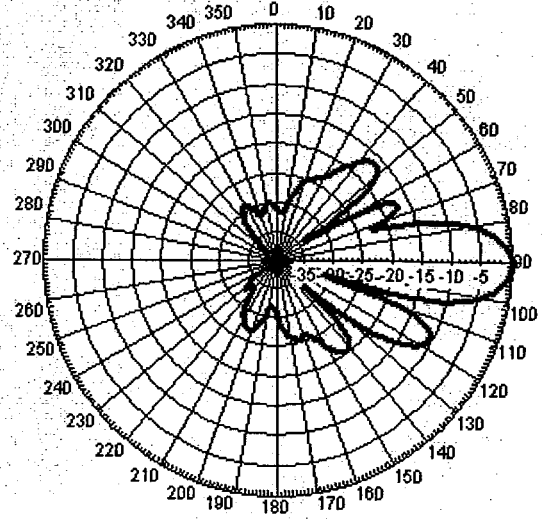
Information correct at date of issue but may be subject to change without notice.

AZIMUTH PATTERN

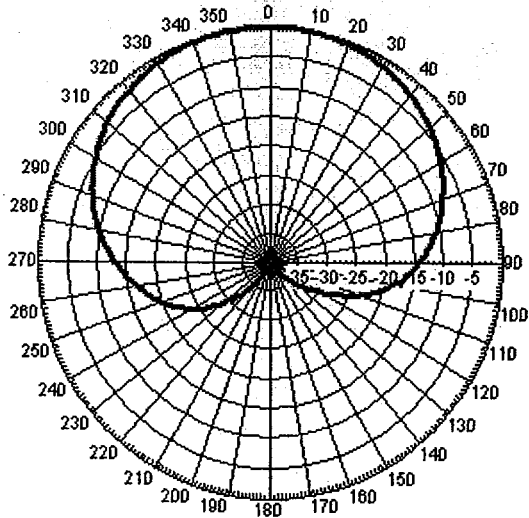
ELEVATION PATTERN



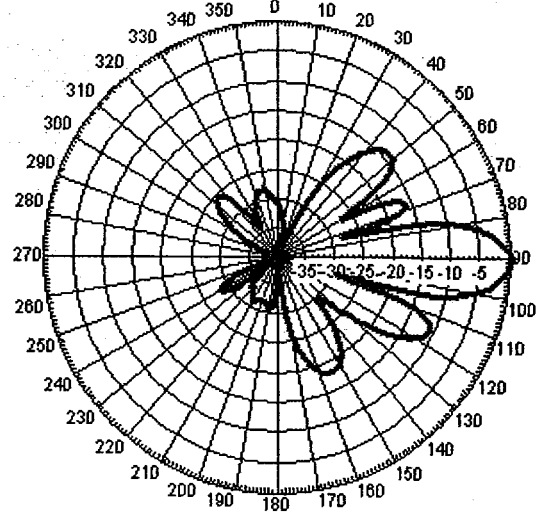
Freq: 860 MHz, Tilt: 0



Freq: 860 MHz, Tilt: 0



Freq: 940 MHz, Tilt: 0



Freq: 940 MHz, Tilt: 0



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948F85T2E-M

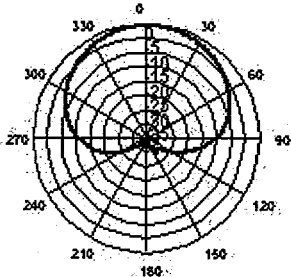
16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

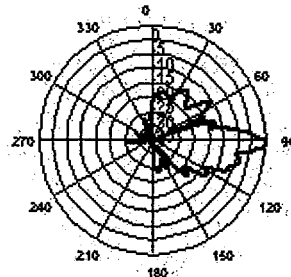
MaxFill™
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- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

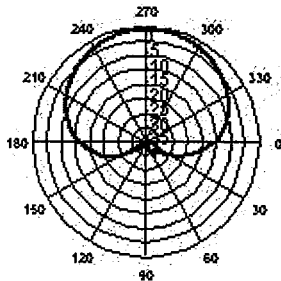
85°



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL

Frequency (MHz):	1850-1990
Polarization:	Vertical
Gain (dBd/dBi):	14/16.1
Azimuth BW:	85°
Elevation BW:	8°
Beam Tilt:	2°
USLS* (dB):	>18
Null Fill* (dB):	15
Front-to-Back Ratio* (dB):	40
VSWR:	<1.33:1
IM Suppression - Two 20 Watt Carriers:	-150 dBc
Impedance:	50 Ohms
Max Input Power:	250 Watts
Lightning Protection:	DC Ground
Opt Electrical Tilt:	0°, 4°, 6°

MECHANICAL

Weight:	8.5 lbs (3.9 kg)
Dimensions (LxWxD):	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Max. Wind Area:	1.18 ft² (0.11 m²)
Max. Wind Load (@ 100mph):	65 lbf (289 N)
Max. Wind Speed:	125 mph (201 km/h)
Radiator Material:	Low Loss Circuit Board
Reflector Material:	Aluminum
Radome Material:	ABS, UV Resistant
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7-16 DIN - Female (Bottom)
Color:	Light Gray
Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Downtilt Mounting Hardware:	DB5098, optional
Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount



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www.andrew.com

Date: 4/29/2004
* - Indicates Typical Values

dbtech@andrew.com

General Power Density

Site Name: Bethany, CT
 Tower Height: 180 FT

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Exaction of MPE (%)
Verizon	880	9	200	1800	180	0.0200	0.586	3.41%
Verizon	1900	3	200	600	180	0.0067	1	0.67%
Total Percentage of Maximum Permissible Exposure								4.08%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power





844H90EXYBAM

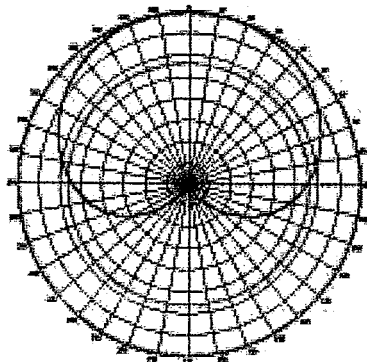
12 dBd
Log Periodic Antenna

824-896 MHz

dB Director®

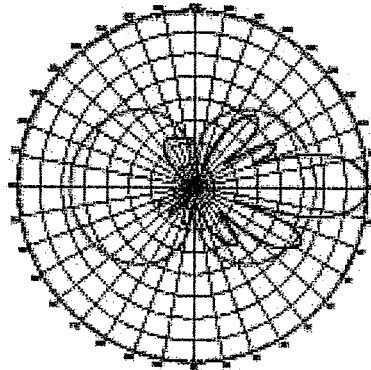
- Superior Azimuth pattern roll off, reducing sector to sector interference, improving call capacity.
- Extremely rugged, reliable design yet lightweight with low wind load.

90°

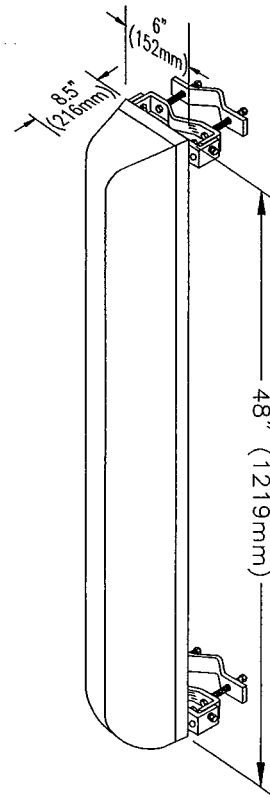


Azimuth
(Horizontal)

Elevation
(Vertical)



Scale: 10° radials, 5 dB per division



Electrical

Frequency:	824-896 MHz
Polarization:	Vertical
Gain:	12 dBd (14.1 dBi)
Azimuth BW:	90°
Elevation BW:	15.5°
USLS:	> 18 dB
Front-to-Back Ratio:	40 dB
VSWR:	1.22:1
PIM:	-150 dBc (2 tone, 20 watt)
Impedance:	50 Ohms
Max. Input Power:	500 Watts
Lightning Protection:	All metal parts are grounded

Mechanical

Weight:	10 lbs (4.5 kg)
Dimensions:	48" x 6" x 8.5" (1219 x 152 x 216 mm)
Max. Wind Area:	2.8 ft ² (0.26 m ²)
Max. Wind Load:	80 lbf (356N) 35.9 kp (at 100 mph)
Max. Wind Speed:	125 mph (201 km/h)
Radiators:	Brass
Reflector:	Pass. Aluminum
Radome:	ABS, UV Resistant
Mounting Hardware:	Galvanized Steel
Connector:	7/16 DIN (Back)
Color:	Gray

Mounting Options

Standard:	DB380 pipe mount kit included.
Downtilt:	DB5083 downtilt brackets, optional.

8635 Stemmons Freeway • Dallas, Texas U.S.A. 75247-3701
 Dallas/Ft. Worth Area Tel: 214.631.0310 • Fax: 214.631.4706
 Toll Free Tel: 1.800.676.5342 • Fax: 1.800.229.4706

www.decibelproducts.com
 dbtech@decibelproducts.com



DECIBEL
Base Station Antennas

948F85T2E-M

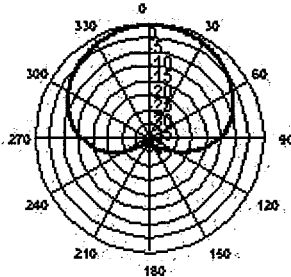
16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

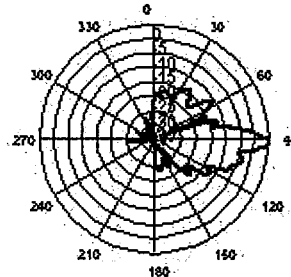
MaxFill™
dB Director®

- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

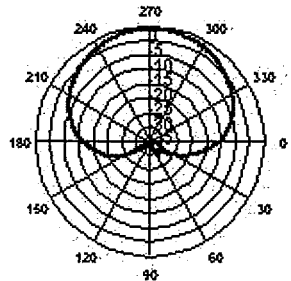
85°



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)



ELECTRICAL

Frequency (MHz):	1850-1990
Polarization:	Vertical
Gain (dBd/dBi):	14/16.1
Azimuth BW:	85°
Elevation BW:	8°
Beam Tilt:	2°
USLS* (dB):	>18
Null Fill* (dB):	15
Front-to-Back Ratio* (dB):	40
VSWR:	<1.33:1
IM Suppression - Two 20 Watt Carriers:	-150 dBc
Impedance:	50 Ohms
Max Input Power:	250 Watts
Lightning Protection:	DC Ground
Opt Electrical Tilt:	0°, 4°, 6°

MECHANICAL

Weight:	8.5 lbs (3.9 kg)
Dimensions (LxWxD):	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Max. Wind Area:	1.18 ft² (0.11 m²)
Max. Wind Load (@ 100mph):	65 lbf (289 N)
Max. Wind Speed:	125 mph (201 km/h)
Radiator Material:	Low Loss Circuit Board
Reflector Material:	Aluminum
Radome Material:	ABS, UV Resistant
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7-16 DIN - Female (Bottom)
Color:	Light Gray
Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Downtilt Mounting Hardware:	DB5098, optional
Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount



Andrew Corporation
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Tel: 214.631.0310

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Fax: 1.800.229.4706
www.andrew.com

Date: 4/29/2004
* - Indicates Typical Values

dbtech@andrew.com

General Power Density

Site Name: Oxford, CT
 Tower Height: 130 FT

Operator	Operating Frequency (MHz)	Number of Trans	ERP Per Trans (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
Verizon	880	9	200	1800	130	0.0383	0.586	6.54%
Verizon	1900	3	200	600	130	0.0128	1	1.28%
Total Percentage of Maximum Permissible Exposure								7.81%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

